

**USER INTERFACING METHOD OF FINANCIAL SETTLEMENT
USING PORTABLE PHONE**

Technical Field

5 The present invention relates to a financial settlement system using a portable phone, and more particularly, to a user interfacing method of allowing a user to use a number of financial settlement cards contained in a portable phone more conveniently in various ways according to many uses.

10 **Background Art**

A number of prior art references are disclosed by the same applicant as that of this application, in which case financial settlement can be done by using a personal portable terminal where an optical transceiver such as a portable phone or a personal digital assistance (PDA) is attached, instead of a plastic or magnetic card.

15 There are Korean Patent Application No. 2000-13426 entitled "Commercial transaction system using a mobile phone" and Korean Patent Publication No. 2001-112562 entitled "Settlement method using mobile phone" as an example, respectively. In these prior art, an optical transceiver is attached in a portable mobile phone, and an optical receiver is attached in a credit inquiry terminal. Accordingly, since card

20 information is contained in the mobile phone where the optical transceiver is attached, transactions can be performed via optical transmission and reception between the mobile phone and the credit inquiry terminal, instead of a credit card.

As another example, there is PCT published application WO 98/34203 A1 (published on 6 August 1998) entitled "Method and apparatus for

25 performing financial transactions using a mobile communication unit". In this prior art, it is disclosed that financial identification codes (ID's) are stored directly within a mobile communications unit such as a mobile phone or other device, which represent credit or debit accounts, digital money or other financial entities. The ID's are transmitted by radio or infrared signals to

30 enable purchase transactions.

As yet another example, there is PCT published application WO 02/80122 A1 (published on 10 October 2002) entitled "Method and system for settling financial transaction with mobile communications portable terminal containing financial information". In this art, financial information is encrypted by using a customer's inherent electronic wallet management number such as a secret number at the time of application of a card issuance, and then the encrypted financial information is input to a mobile communications terminal directly, or via a communications network. When a customer wishes to settle financial transactions, he or she inputs his or her electronic wallet management number (such as a secret number) to optically transmit the encrypted financial information and electronic wallet management number (such as a secret number) to a POS terminal or card inquiry machine in an affiliated store. The POS terminal or card inquiry machine decodes the encrypted financial information by using the received electronic wallet management number such (as a secret number).

As still another example, there is U.S. patent publication no. 6,016,476 (issued 18 January 2000) entitled "Portable information and transaction processing system and method utilizing biometric authorization and digital certificate security". In this art, a user can store his or her credit card, ATM card and/or debit care (i.e., financial) information as well as personal information, and then access and write selected information to a smartcard, which is then used to initiate a POS, ATM, or consumer transaction. User inquiry is performed using a PIN or password, and financial information for each card stored in the PDA is secured.

As yet another example, there is PCT published application WO 02/065404 A2 (published on 22 August 2002) entitled "Identification system". In this art, a card is selected on the menu of a cellular phone and is transmitted as a serial data stream.

As yet still another example, there is GB patent application no. 2 353 389 A (published on 21 February 2001) entitled "Self-service terminal". In this

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art, a self-service terminal for dispensing electronic vouchers for storing in a portable terminal.

By the way, information about a number of financial settlement cards such as a credit card, a debit card, a cash card, and a department store card is contained in
5 an internal or external memory of a mobile unit which can be used as a financial settlement unit. However, since a card to be used for financial settlement is selected according to uses, or since there are financial transactions which do not require a password as in petty cash dealings and financial transactions requiring a password, an interface allowing a user to use a desired card more easily according to
10 a transaction situation, need to be embodied.

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CLAIMS

1. A user interfacing method of performing financial settlement using a mobile unit (10), the user interfacing method comprising the steps of:

5 (a) selecting one of a number of financial settlement cards contained in the mobile unit (10) as a default card;

(b) if a user selects a mobile unit settlement on an initial menu display screen of the mobile unit (10), displaying on a screen a mobile unit settlement menu including an immediate settlement item which enables an immediate settlement to be performed immediately with the selected default card;

10 (c) if the user selects the immediate settlement item on the mobile unit settlement display screen, displaying a password input screen of the default card to be used as the immediate settlement card, together with soft keys allocated to replace the settlement card by a new settlement card, **and then outputting a password input guiding message as a sound signal;** and

15 (d) if the user inputs a password on the password input screen and the input password is normally processed, displaying a screen informing the user that the settlement has been completed, and if the user selects the soft keys allocated on the password input screen, displaying the contained financial settlement cards to enable the user to select a settlement card.

2. The user interfacing method of claim 1, wherein a financial settlement card contained initially in the mobile unit (MU; 10) is selected as default, and only one financial settlement card existing in use is selected as default, in said step (a).

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3. The user interfacing method of claim 1, wherein the message informing of a deletion of the default card will be output before or after deletion thereof, in the case that selected default card is deleted, in said step (a).

30 4. The user interfacing method of claim 1, wherein the kind of a default

card is displayed on the mobile unit settlement menu screen together with the immediate settlement item, in said step (b).

5 5. The user interfacing method of claim 1, wherein said step (d) further comprises the step of (e) **providing a menu or icon with information which allows a user to receive an additional service as in a bonus card can be selected.**

10 6. The user interfacing method of claim 1, wherein a soft key for allowing a user to select a bonus card is assigned and displayed on the settlement completion screen, in said step (d).

15 7. The user interfacing method of claim 1, wherein a separate mark is added to the default card when the kind of a financial settlement card is displayed, to thereby make a user easily recognize the kind of the card, in said step (d).

8. The user interfacing method of claim 8, wherein the card to be selected as a default card is processed with characters or highlight indication, in said step (d).

20 9. The user interfacing method of claim 1, wherein an error message is displayed when a cancelled card is selected, in said step (d).

25 10. The user interfacing method of claim 9, wherein a card selection error message is displayed when a card which cannot be used for a particular purpose is selected, in said step (d).

11. The user interfacing method of claim 9, wherein a phone password is used as an access key when a user wishes to access an access limited item **in the mobile unit (MU;10)**.

30 12. The user interfacing method of claim 11, wherein the phone password

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is a password which is used when a phone locking function is set and released.

13. A user interfacing method of performing financial settlement using a mobile unit in which information is transmitted and received between a mobile unit
5 (10) and a base unit (20) connected to a card terminal, the user interfacing method comprising the steps of:

(a) communicating with the base unit (20) by pressing one time an external key (11) provided on an outer portion of the mobile unit (10);

(b) transmitting an identifier from the base unit (20) to the mobile unit (10)
10 in which the identifier includes information about a card to be used for settlement according to each use and whether or not a password is required;

(c) receiving the identifier at the mobile unit (10), and transmitting only corresponding card information to the base unit (20) if a password is not required to thereby complete a settlement, and displaying a password input screen of a
15 corresponding card if a password is required; and

(d) if a password is input on the password input screen by the user and normally processed, displaying a screen informing the user that the settlement has been completed.

20 14. The user interfacing method of claim 13, wherein said step (c) comprises the step of interrupting connection of communications between the mobile unit (MU; 10) and the base unit (BU; 20) so as to prevent a communication cost from being incurred due to generation of an air-time in the displayed condition.

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15. The user interfacing method of claim 13, wherein an error message is displayed when a password input error occurs, in said step (d).

16. The user interfacing method of claim 13, wherein said step (d)
30 comprises the step of outputting an effect sound and a voice guiding message which

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inform the user that a settlement is completed.

17. The user interfacing method of claim 13, further comprising the step of
(e) defining the number of times of the financial transactions using the mobile unit
5 which is allowed at a particular business place, for each card, to thereby limit a
financial settlement function.

18. The user interfacing method of claim 17, wherein the number of times
of financial transactions is selected daily, monthly or by an amount of money, to fit
10 for circumstances of places where cards are used, in said step (e).

19. A user interfacing method of financial settlement using information
transmission and reception between a mobile unit (MU; 10) and a base unit (BU; 20)
connected to a card terminal, the user interfacing method comprising the steps of:

15 (a) performing communications between the mobile unit (MU ; 10) and the
base unit (BU; 20) of the card terminal, by pressing an external key (11) provided on
an appropriate outer portion of the mobile unit (MU; 10) one time; and

(b) transmitting card information and/or a password of a pre-selected default
card from the mobile unit (MU; 10) to the base unit (BU; 20), to thereby perform a
20 settlement.